

ABSTRACT OF THE INVENTION

The invention relates to a ball-limiting metallurgy (BLM) etching system and process.

The BLM stack is provided for an electrical device that contains an aluminum layer disposed upon a metal first layer. A metal upper layer is disposed above the metal second layer, and an alternative metal third layer is disposed between the metal second layer and the metal upper layer. The etching system and process utilizes an etching solution that includes a nitrogen-containing heterocyclic compound, an ammonium hydroxide compound, an oxidizer, and a metal halide compound. Etching conditions prevent any metallization that is dissolved from redepositing, thus avoiding lowered yields.

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